



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,951	08/18/2003	Richard E. Fontaine	09991-042001	4153

26178 7590 08/29/2007  
FISH & RICHARDSON P.C.  
P.O. BOX 1022  
MINNEAPOLIS, MN 55440-1022

EXAMINER
----------

NGUYEN, LAM S

ART UNIT	PAPER NUMBER
----------	--------------

2853

MAIL DATE	DELIVERY MODE
-----------	---------------

08/29/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/642,951

Applicant(s)

FONTAINE ET AL.

Examiner

LAM S. NGUYEN

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 36-70 is/are pending in the application.
- 4a) Of the above claim(s) 36-52 and 58-70 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 53-57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/03/07</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

In response to the restriction requirement, the applicant, without traverse, elected claims 53-57 for further examination. As a result, claims 38-52, 58-70 are withdrawn from consideration.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 53-57 are rejected under 35 U.S.C. 102(b) as being anticipated by Furagawa (US 10642951).

#### **Regarding to claim 53:**

Furagawa discloses an apparatus comprising:

droplet ejection devices (*FIG. 1a*) each comprising an element (*FIG. 1a, elements 5-6*) to change a volume of a fluid chamber (*FIG. 1a, element 2*) of one of the droplet ejection devices, the element having an electrical capacitance (*FIG. 1b*); and

control circuitry to effect uniform droplet velocities (Abstract) from the droplet ejection devices by providing respective charge voltages or charge currents to the volume changing elements (*FIGs. 2a-b, 8d, 9d*).

Art Unit: 2853

**Regarding to claim 54:** wherein the control circuitry effects uniform droplet velocities also by providing respective discharge voltages or discharge currents to the volume changing elements (*FIG. 3a-b, 8d, 9d*).

**Regarding to claim 55:** wherein the control circuitry comprises discharging control switches (*FIG. 3b*) to connect or disconnect discharge voltages or discharge currents to respective elements to discharge the respective electrical capacitances (*FIG. 2a-b*).

**Regarding to claim 56:** wherein the control circuitry comprises charging control switches (*FIG. 3a*) to connect or disconnect charge voltages or charge currents to respective elements to charge the respective electrical capacitances (*FIG. 2a-b*).

**Regarding to claim 57:** wherein the volume changing element comprises an electrically actuated displacement device (*FIG. 1a-b*).

#### ***Response to Arguments***

Applicant's arguments with respect to claims 53-57 have been considered but are moot in view of the new ground(s) of rejection.

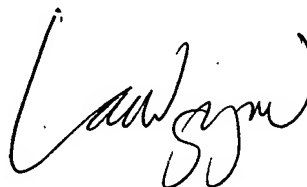
#### **Contact Information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAM S. NGUYEN whose telephone number is (571)272-2151. The examiner can normally be reached on 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D. MEIER can be reached on (571)272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2853

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Lam Son Nguyen', written in a cursive style.

LAM SON NGUYEN